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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/932,860	08/17/2001	Craig M. Carpenter	488015 (01-0170)	6588

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EXAMINER

ZERVIGON, RUDY

ART UNIT	PAPER NUMBER
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1763

DATE MAILED: 11/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

### Application No.

09/932,860

### Applicant(s)

CARPENTER ET AL.

### Examiner

Rudy Zervigon

### Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 8, 2003 and February 13, 2002 have been entered.

### ***Oath/Declaration***

The following is a statement of 37 CFR 3.73:

#### **37 CFR 3.73 Establishing right of assignee to take action.**

(a) The inventor is presumed to be the owner of a patent application, and any patent that may issue therefrom, unless there is an assignment. The original applicant is presumed to be the owner of a trademark application or registration unless there is an assignment.

(b)(1) In order to request or take action in a patent or trademark matter, the assignee must establish its ownership of the patent or trademark property of paragraph (a) of this section to the satisfaction of the Director. The establishment of ownership by the assignee may be combined with the paper that requests or takes the action. Ownership is established by submitting to the Office a signed statement identifying the assignee, accompanied by either:

(i) Documentary evidence of a chain of title from the original owner to the assignee (*e.g.*, copy of an executed assignment). The documents submitted to establish ownership may be required to be recorded pursuant to § 3.11 in the assignment records of the Office as a condition to permitting the assignee to take action in a matter pending before the Office; or

(ii) A statement specifying where documentary evidence of a chain of title from the original owner to the assignee is recorded in the assignment records of the Office (*e.g.*, reel and frame number).

(2) The submission establishing ownership must show that the person signing the submission is a person authorized to act on behalf of the assignee by:

(i) Including a statement that the person signing the submission is authorized to act on behalf of the assignee; or

(ii) Being signed by a person having apparent authority to sign on behalf of the assignee, *e.g.*, an officer of the assignee.

(c) For patent matters only:

(1) Establishment of ownership by the assignee must be submitted prior to, or at the same time as, the paper requesting or taking action is submitted.

(2) If the submission under this section is by an assignee of less than the entire right, title and interest, such assignee must indicate the extent (by percentage) of its ownership interest, or the Office may refuse to accept the submission as an establishment of ownership.

Applicant is requested, in reply to the present action, to complete PTO/SB/96 (reproduced on the following page) to perfect Applicant's 3.73(b) statement. Applicant's declaration statement of "[x] In an assignment filed herewith for recordation a true copy of which is attached hereto." The assignment is not found in the image file wrapper documentation.

***Claim Rejections - 35 USC § 103***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1-5, and 7-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sajoto et al (USPat. 6,056,823) in view of Whitney (USPat. 4,638,150) as demonstrated by DeZubay, Egon A. et al (US 4,480,930 A).

Sajoto teaches a deposition chamber (12, Figure 2; column 4, lines 45-67) including:

- i. A chamber body (12) having a cavity (55, 20; Figure 3A, column 6, lines 45-65) formed therein
- ii. A chamber lid (14, Figure 2; column 4, lines 45-67) configured to enclose the cavity (Figure 2)
- iii. A vapor delivery head (26, Figure 2; column 5, lines 23-35) positioned within the cavity
- iv. A feed through device (40, Figure 3A; column 6, lines 12-44), having a longitudinal body portion (conduit for 40 (not labeled); Figure 3A; compare 208, Figure 2 of Application, [0036]) positioned in the chamber including a lumen (42/44 passage) as a longitudinal body, the feed through device being configured to receive vapor from a vapor source and transfer the vapor there through along a pathway (42, 44; Figure 2, 3A; column 5, line 65 - column 6, line 11) toward the vapor delivery head
- v. At least one resistance ("power lead 67"; column 6, lines 37-44) heating device / resistor element (64, Figure 3A; column 6, lines 30-44) associated with the feed through device
- vi. The heating device includes the resistance heater wherein at least a portion of the resistance heater is positioned within the continual helical groove (62/64 interface) of the feed through

device – The heater wires are shown in Figure 3A as staggered vertically in cross section which is a helical structure. As shown in Figure 3A, the continual helical groove is configured to complementarily receive the resistance heater (64)

The resistance heater further includes a pair of electrical resistance leads - terminal portion of 67, Figure 3A,

Sajoto further teaches electrical resistance leads (64, Figure 3A) shown to wind along the feed through. Sajoto also further shows (Figure 3A) that his heater (64) is formed into a helical pattern complementary with a continual helical groove.

Sajato does not teach:

- i. Electrical resistance leads having at least a portion thereof disposed within a stainless steel thermally conductive sheathing
- ii. Two resistor elements
- iii. The heating device further includes a thermocouple positioned within the thermally conductive sheathing
- iv. That his heater is either adhered or welded to the feed through device
- v. A layer of thermal insulation disposed between the at least a portion of the heated section of the heating device and the chamber body and substantially circumscribing the longitudinal body portion and the at least a portion of the second heated section
- vi. A temperature sensing device positioned between the layer of insulation and the longitudinal body portion of the feed through device

Whitney teaches a flexible wire heater device (30, Figure 4; column 2, line 42 column 3, line 5) including:

- vii. Electrical resistance leads / resistor elements (40; Figure 4; column 5, lines 19-35) having at least a portion thereof (see Figure 4) disposed within a stainless steel thermally conductive sheathing (46; Figure 4; column 5, lines 19-35)
- viii. The heating device further includes a thermocouple<sup>1</sup> ("PTC component 14", "temperature-responsive component 14"; column 4, lines 54-68) positioned within the thermally conductive sheathing to form a "self-limiting" heater (column 4, lines 39-40)
- ix. A layer of thermal insulation (42/44/42 column 5, lines 30-35) disposed between at least a portion of the thermally conductive sheathing (46; Figure 4; column 5, lines 19-35) heated section (40) of the heating device
- x. A temperature sensing device ("PTC component 14", "temperature-responsive component 14"; column 4, lines 54-68) positioned inside the layer of insulation and configured to generate a signal representative of a temperature sensed thereby ("temperature-responsive component"; column 2, lines 7-25)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace Sajoto's heater with Whitney's heater, and thereby substantially circumscribing the longitudinal body portion and the at least a portion of heated section, by either adhering or welding Whitney's heater to Sajoto's feed through device.

Motivation to replace Sajoto's heater with Whitney's heater by either adhering or welding Whitney's heater to Sajoto's feed through device is to provide a heater with a temperature-responsive component to limit elevated temperatures as taught by Whitney (column 2, line 64 – column 3, line 2).

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<sup>1</sup> USPat. 4,480,930 demonstrates that PTCs are thermocouples (column 3, line 63).

***Response to Arguments***

4. Applicant's arguments filed August 8, 2003 have been fully considered but they are not persuasive.
5. Applicant's amendment filed August 8, 2003 has overcome the 35 USC 112, 2<sup>nd</sup> paragraph rejections.
6. Applicant states (page 7-8) that the combination of Sajoto and Whitney does not produce the claimed invention because Whitney's thermal insulation (42, 44) is "disposed internally of the sheathing" and thus "would not substantially circumscribe the longitudinal body and the at least a portion of the thermally conductive sheathing set forth in claim 1.". The Examiner does not find Applicant's argument convincing. First, Applicant's Figure 4A shows the longitudinal body portion 258 with the helical groove 260 to accompany Applicant's heating device 238. And as stated in prior action's the combination of Whitney and Sajoto "to replace Sajoto's heater with Whitney's heater, and thereby substantially circumscribing the longitudinal body portion and the at least a portion of heated section, by either adhering or welding Whitney's heater to Sajoto's feed through device." identically produces Applicant's invention. The relative position of Whitney's insulation and sheath is independent of Whitney's thermal insulation substantially circumscribing the longitudinal body and the at least a portion of the thermally conductive sheathing set forth in claim 1 when combined with Sajoto.
7. Applicant states that "...the combination of Whitney and Sajoto does not result in a temperature sensing device being disposed between the recited layer of thermal insulation and longitudinal body portion of the feedthrough device which is configured to generate a signal upon sensing a temperature." (page 8). In response, the Examiner confirms that the combination



of Whitney and Sajoto does result in a temperature sensing device (Whitney - "responsive-responsive component"; column 2, lines 7-25) being disposed between the recited layer of Whitney's thermal insulation (42, 44) and Sojoto's longitudinal body within Sajoto's feed through device (40, Figure 3A; column 6, lines 12-44), having a longitudinal body portion (conduit for 40 (not labeled); Figure 3A; compare 208, Figure 2 of Application, [0036]) of the feedthrough device when:

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace Sajoto's heater with Whitney's heater, and thereby substantially circumscribing the longitudinal body portion and the at least a portion of heated section, by either adhering or welding Whitney's heater to Sajoto's feed through device.

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8. In response to Applicant's position that "Sajoto teaches that a radiation shield 65 is disposed over the heater to prevent thermal radiation for heating the outer shell 41" (col. 6, lines 34-36), while, as shown in FIGS. 2 and 3A, a thermocouple (66) is disposed external to the radiation shield 65. In other words, Sajoto's thermal radiation shield is disposed between the thermocouple and the heating device." Is moot in view of the structure of the Examiner's rejection that specifically delineates a replacement of Sajoto's heater with Whitney's heater as discussed above and in prior actions.

9. Applicant's disagreement with the Examiner's position that Whitney's PTC component 14 is a temperature sensing device, i.e. thermocouple, is acknowledged. However, the Examiner maintains his position as demonstrated by DeZubay, Egon A. et al (see above).

***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Rudy Zervigon whose telephone number is (703) 305-1351. The examiner can normally be reached on a Monday through Thursday schedule from 8am through 7pm. The official after final fax phone number for the 1763 art unit is (703) 872-9311. The official before final fax phone number for the 1763 art unit is (703) 872-9310. Any Inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Chemical and Materials Engineering art unit receptionist at (703) 308-0661. If the examiner can not be reached please contact the examiner's supervisor, Gregory L. Mills, at (703) 308-1633.

*Rudy Zervigon*  
11/6/13